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20. (Not Currently Amended) An image reader according to Claim 19, wherein said holding member has either a bearing or a shaft which engages with said shaft or said bearing of said housing.

21. (Not Currently Amended) An image reader according to Claim 14, further comprising a biasing member disposed between said holding member and said image sensor unit adapted to bias said image sensor unit towards said transparent plate.

--22. (New) An image reader according to Claim 11, wherein said housing further comprises a hole adapted to mount said spacer therein.--

REMARKS

This application has been reviewed in light of the Office Action dated September 25, 2002. Claims 11, 12, and 14-22 are pending in this application with Claims 11, 15, and 17 in independent form. Claim 22 has been added to provide Applicant with a more complete scope of protection. Claims 11, 15, and 17 have been amended to define more clearly what Applicant regards as the invention, in terms that distinguish over the art of record. Claim 14 has been amended so that it now depends from Claim 11. The amendment to Claim 16 affects matters of form only and does not, in any way, narrow the scope of this claim. Favorable reconsideration is requested.

The Office Action includes an objection to Claims 14 and 21 because Claim 14 left out the word "plate" after the word "transparent" at line 13. Claim 21 has been objected to because it depends from Claim 14. Claim 14 has been amended in a manner that deletes this phrase, and therefore, withdrawal of the objection is respectfully requested.

Claims 14 and 21 were rejected as anticipated by U.S. Patent No. 6,072,602 (Sun et al.), and Claims 11, 12, and 15-20 were rejected as obvious from Sun et al. in view of U.S. Patent No. 4,444,318 (Alexander).

Applicant submits that amended independent Claims 11, 15, and 17, together with the remaining dependent claims, are patentably distinct from the proposed combination of Sun et al. and Alexander for at least the following reasons.

Claim 11 requires an image reader including the following four elements: (a) a transparent plate adapted to contact an original; (b) an image sensor unit including a light source adapted to illuminate the original, a reading element adapted to read an image of the original, and a housing adapted to mount the light source and the reading element, the housing being a rectangular parallelepiped and having a shaft or a bearing, the shaft or the bearing being disposed so as to be parallel to the reading element and being provided so as not to protrude from the rectangular parallelepiped; (c) a holding member adapted to rotatably hold the image sensor unit; and (d) a motor adapted to shift a positional relationship between the original and the image sensor unit held by the holding member. Additionally, the housing has a spacer which maintains a distance between the transparent plate and the image sensor unit.

One important feature of Claim 11 is the housing's shaft or bearing being disposed so as to be parallel to the reading element. This feature is described in the specification at least at page 10, lines 1-13, which states in part that "[t]he housing of the line sensor unit 2 has two shafts 2a and 2b . . . with the center line of the shafts 2a and 2b lying in a direction which is substantially parallel to the reading line direction (indicated in Fig. 4)." (See Figures 2 and 4 for the locations of the shafts 2a and 2b).

As a disclosure of such structure, the Examiner relied upon the guiding device 105 in Sun et al., shown in Figure 1A. Applicant respectfully traverses this position. The guiding device 105 of Sun et al. is *perpendicular* to the CIS module 1021. In contrast, the shaft recited in Claim 11 is *parallel* to the reading element. Therefore, Applicant submits that the guiding device 105 does not read upon the shaft claimed in the present invention. Further, nothing else has been found in Sun et al. that would teach or suggest the housing's shaft or bearing being disposed so as to be parallel to the reading element.

Another important feature of Claim 11 is that the holding member is adapted to rotatably hold the image sensor unit. This feature is described in the specification at least at page 10, lines 19-24, which states in part that "[t]he line sensor unit 2 is rotatably held by a unit-holding member 4 . . . ." This feature allows the line sensor unit 2 to be directly mounted to the unit-holding member 4, without using other component parts. (See page 12, lines 2-12 of the specification.)

The Examiner refers to the CIS carriage 102 in Sun et al. to disclose a holding member. Even if Sun et al. is deemed to teach or suggest a holding member, Applicant submits that nothing in Sun et al. would teach or suggest a holding member adapted to rotatably hold an image sensor unit, as newly recited in Claim 11.

At least for the reasons discussed above, Applicant submits that Claim 11 is patentable over Sun et al. Further, it is Applicant's position that the proposed combination of Sun et al. and Alexander, assuming such combination would even be permissible, would still fail to teach or suggest the housing's shaft and the holding member adapted to rotatably hold the image sensor unit, as recited in Claim 11. Accordingly, Applicant submits that Claim 11 is patentable over these two patents, taken separately or in any proper combination.

Claim 15 requires an image sensor unit mounted in an image reader, including the following three elements: (1) a light source adapted to illuminate an original; (2) a reading element adapted to read an image of the original; and (3) a housing adapted to mount the light source and the reading element, the housing having a hole mounting a spacer therein, which maintains a distance between an original-holding plate of the image reader and the image sensor unit. Additionally, the housing is movable relative to the original-holding plate.

One important feature of Claim 15 is the housing having a hole mounting a spacer therein, wherein the housing is movable relative to the original-holding plate. This feature is described in the specification at least at page 13, lines 8 to page 14, line 21, in reference to "Xs" and "Xe" in Figure 1. Further support can be found at least at page 10, lines 15-17, which discusses the spacers 51a and 51b.

In discussing the rejection of Claim 15, the Examiner states (and Applicant agrees) that "Sun et al does not disclose how the spacer is mounted," and then relies upon Alexander to teach such a feature. As described in the Office Action at page 3, "Alexander teaches that a spacer can be mounted into a chassis or housing by means of a hole in the chassis or housing (Alexander Col 2 lines 34-39) because it permits joining elements in

spaced relationship without the use of additional hardware or tools (Alexander Col 1 lines 20-22, 63)." Even if Alexander is deemed to teach a spacer mounted into a housing by means of a hole, Applicant submits that it does not teach or suggest a spacer mounted into a housing by means of a hole, wherein the housing is *movable* relative to the original-holding plate.

In particular, Alexander, as understood by Applicant, discloses a snap-in spacing device for circuit boards, where the circuit boards on both ends of the spacer are fixed in position. (See Figure 3). Claim 15, though, is different. It requires a spacer mounted in a hole on the housing, but the housing is movable relative to the original-holding plate. So the housing on one side of the spacer, and the original-holding plate on the other side of the spacer, are movable relative to each other. In Alexander, the circuit boards on each side of the spacer are fixed in position. Therefore, Applicant believes that Alexander does not address the problem of spacing objects that are movable relative to each other and accordingly submits that there is no motivation to combine Alexander with Sun et al. But even if this was a permissible combination, Applicant also submits that Alexander does not teach or suggest the housing having a hole mounting a spacer therein, wherein the housing is movable relative to the original-holding plate, as recited in Claim 15.

In summary, Applicants argue both (1) that the proposed combination of Sun et al. and Alexander is impermissible, and (2) that even if the proposed combination of Sun et al. and Alexander was permissible, the combination would still fail to teach or suggest the housing having a hole mounting a spacer therein, wherein the housing is movable relative to the original-holding plate, as recited in Claim 15.

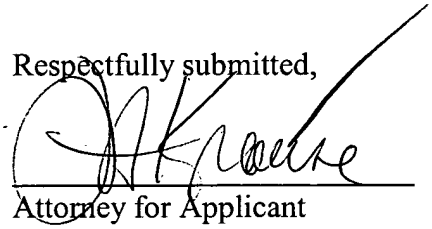
Claim 17 recites similar features as discussed above with Claim 15. In particular, Claim 17 recites a housing movable relative to said transparent plate that has a recess on a side which faces said transparent plate, and a slider engaged in the recess that is adapted to contact said transparent plate. Accordingly, Claim 17 is believed to be patentable for at least the same reasons as discussed above in connection with Claim 15.

The other rejected claims in this application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual consideration or reconsideration, as the case may be, of the patentability of each claim on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

11. (Twice Amended) An image reader, comprising:

(a) a transparent plate adapted to contact an original;

(b) an image sensor unit including a light source adapted to illuminate the original, a reading element adapted to read an image of the original, and a housing adapted to mount said light source and said reading element, said housing being a rectangular parallelepiped and having a shaft or a bearing, said shaft or said bearing being disposed so as to be parallel to said reading element and [said shaft or said bearing] being provided so as not to protrude from said rectangular parallelepiped;

(c) a holding member adapted to rotatably hold said image sensor unit; and

(d) a motor adapted to shift a positional relationship between the [image of the] original and said image sensor unit held by said holding member,

wherein said housing [further comprises a hole mounting] has a spacer [therein,] which maintains a distance between said transparent plate and said image sensor unit.

14. (Twice Amended) An image reader according to Claim 11, [comprising:

(a) a transparent plate adapted to contact an original;

(b) an image sensor unit including a light source adapted to illuminate the original, a reading element adapted to read an image of the original, and a housing adapted to mount said light source and said reading element, said housing being a rectangular parallelepiped

and having a shaft or a bearing, said shaft or said bearing being disposed so as to be parallel to said reading element and said shaft or said bearing being provided so as not to protrude from said rectangular parallelepiped;

(c) a holding member adapted to hold said image sensor unit; and

(d) a motor adapted to shift a positional relationship between the image of the original and said image sensor unit held by said holding member,]

wherein <u>said spacer is integrally formed with</u> said housing [has integrally formed therewith a spacer adapted to maintain a distance between said transparent and said image sensor unit].

15. (Twice Amended) An image sensor unit mounted in an image reader, comprising:

a light source adapted to illuminate an original;

a reading element adapted to read an image of the original; and

a housing adapted to mount said light source and said reading element, said housing having a hole mounting a spacer therein, which maintains a distance between an original-holding plate of the image reader and said image sensor unit,

<u>wherein said housing is movable relative to said original-holding plate</u>.

16. (Amended) An image reading apparatus mounting said image sensor unit according to Claim 15, further comprising a motor adapted to shift a positional relationship between the [image of the] original and said image sensor unit.

17. (Amended) An image reader, comprising:

(a) a transparent plate adapted to contact an original;

(b) an image sensor unit including;

(i) a light source adapted to illuminate the original;

(ii) a reading element adapted to read an image of the original;

and

(iii) a housing adapted to mount said light source and said reading element, wherein said housing is movable relative to said transparent plate and has a recess on a side which faces said transparent plate,

(c) a slider engaged in said recess and adapted to contact said transparent plate;

(d) a holding member adapted to hold said image sensor unit; and

(e) a motor adapted to shift a positional relationship between the [image of the] original and said image sensor unit held by said holding member sliding along said transparent plate.